



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,965	12/21/2000	Earl Hubbell	3373.1	8500

7590 04/28/2003

Chief IP Counsel - Legal Dept.
Affymetrix, Inc.
3380 Central Expressway
Santa Clara, CA 95051

EXAMINER

ZEMAN, MARY K

ART UNIT	PAPER NUMBER
----------	--------------

1631

DATE MAILED: 04/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/745,965

Applicant(s)

HUBBELL, EARL

Examiner

Mary K Zeman

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claims 1-27 are pending in this application.

Priority

Priority to provisional application 60/252,617 is acknowledged. Applicant's statement as to related applications in the first portion of the specification is acknowledged.

Information Disclosure Statement

The IDS filed 5/10/01 has been entered and considered. A copy of the form PTO-1449 is included with this action.

Drawings

The drawings filed with the application are suitable to the examiner.

Specification

The disclosure is objected to because of the following informalities: Applicant must update the status (pending, abandoned, patented with patent number) of all US applications referred to by serial number in the specification. See at least page 7 line 20, page 9 line 23, page 12 line 14, page 14 line 6, etc.

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01. See at least pages 17, 19 and 24.

Appropriate correction is required.

Claim Objections

Claims 3, 12 and 21 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. What the probes are for fails to further limit

Art Unit: 1631

the method steps of the independent claims. The nature of the probes fails to further limit the system comprising the software, and fails to limit the software instructions.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-27 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims are drawn to methods of selecting probes against a target. The method comprises inputting quality scores for a plurality of probes and selecting probes based upon a maximum aggregate adjusted quality score. For the reasons set forth below, one of skill in the art would have to perform undue experimentation to practice the method of the claims.

In these claims, there is no indication that any of the probes are related to the target sequence in any way. There is no discrete comparison step. One must already have in hand the “quality score” for a plurality of probes. The specification sets forth a single method for predicting a quality score at pages 21-24. This is not how to obtain an *actual* quality score for any particular probe, but merely a *predicted* score. There is no teaching as to how to obtain actual quality scores other than the predicted scores. The claims do not require or set forth the steps for obtaining the predicted quality score, and the specification fails to set forth other methods to perform this step. As such one of skill in the art would need to determine how to do this critical step without guidance from the specification, which represents undue experimentation.

The claims further lack steps which set forth how the actual or predicted quality scores are used to obtain the “maximum aggregate adjusted quality score.” How is this new score obtained and how is the originally input data manipulated to obtain that score? Again, no relationship to any target sequence is set forth. No specific active method steps are recited such that the preamble of the claim can be met by the method steps. How is the “adjusted score”

Art Unit: 1631

based upon other data? The specification sets forth only a single method for adjusting scores and one of skill in the art would not be able to easily determine what other ways to base such an adjustment without undue experimentation.

In the claims, the limitation of "performing dynamic programming optimization" fails to remedy the preceding problems. On what is this to be done? To what end? The specification sets forth a single method comprising this process. How this is otherwise to be implemented is unclear. How would one of skill in the art be able to perform this step within the claimed methods and systems?

As such, one of skill in the art would have to provide inventive insight and perform undue experimentation to perform the methods of the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-27 are rejected under 35 U.S.C. 102(a) as being anticipated by Mei et al. (2000).

The claims are drawn to methods (systems and programs) for selecting probes to a target sequence based on adjusted quality scores. These quality scores take into account predicted hybridization, length, and overlap with other probes. Various numbers of probes can be selected.

Mei et al. (Mei, G. et al. Nucleic Acids Research (April 1, 2000) Vol. 28 No. 7 pages e22 (i-ix)) disclose methods of selecting a variety of probes to a target sequence (which can be a transcript). eOST selects any desired number of probes from a library of probes based upon their length, overlap with other probes in the library and predicted affinity for the target sequence. These qualities are input into a program which generates a "quality score" which is taken into account when selection is performed. Mei et al provide systems and programs to perform the method. As such, this disclosure anticipates the claims.

Art Unit: 1631

Conclusion

No claim is allowed.

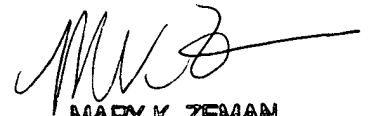
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary K Zeman whose telephone number is (703) 305-7133.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, can be reached at (703) 308-4028.

Official fax numbers for this Art Unit are: (703) 308-4242, (703) 872-9306. An *unofficial* fax number, direct to the Examiner is (703) 746 5279. Please call prior to use of this number.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC1600 Receptionist whose telephone number is (703) 308-0196.

mkz
4/23/03


MARY K. ZEMAN
PRIMARY EXAMINER
